

PATENT ABSTRACTS OF JAPAN

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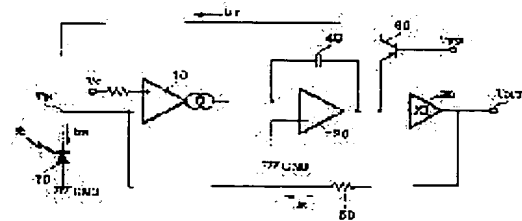
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(54) CURRENT/VOLTAGE TRANSFORMING CIRCUIT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a current/voltage transforming circuit by which a saturation state is avoided without reducing the trans-impedance and the S/N ratio is improved by providing a limiter in the circuit.

SOLUTION: A current IPH generated by a photodiode 70 in accordance with the incident light beam energy is transformed into voltage signals by amplifiers 10 and 20 and outputted through an output buffer 30. The emitter of a pnp transistor 60 is connected to the output terminal of the amplifier 20, the collector is connected to an input terminal TIN and a reference voltage VREF is applied to the base. When the current IPH is increased and the output voltage of the amplifier 20 exceeds (VREF+VBE), a limiter current ILT flow through the collector of the transistor 60 and limits a current IR which flows through a resistor element 50. Thus, the saturation state of the amplifiers 10 and 20 is prevented and the increase of the circuit delay time caused by the saturation is avoided.



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